



Docket No.: 1323_001RCE
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
W. P. Dowst et al.

Application No.: 10/603,947

Confirmation No.: 3129

Filed: June 25, 2003

Art Unit: 3749

For: HEATING VESSEL

Examiner: C. D. Price

AFFIDAVIT UNDER 35 CFR 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Robert L. Lescanec, being duly sworn deposes and says that:

I received a PhD degree in Polymer Science & Engineering from The University of Massachusetts at Amherst in 1992 and a BS degree in Chemical Engineering from Lehigh University.

I have over 12 years experience in Product Development, and I am currently the Director of Research and Development for Jetboil, Inc, a position I have held since April, 2006.

In my present position, I was assigned responsibility for monitoring the prosecution of the present patent application, along with other pending applications, relating to the Jetboil Personal Cooking System. I am therefore very familiar with the claims in the pending application, as well as the prior art patents that have been cited against those claims. Each of the independent claims 106, 117, 129 and 140 recite a burner and a vessel with a thermally conductive member attached thereto, substantially as follows:

“a vessel having enclosed sides, a thermally conductive bottom end and a top end forming an opening for the introduction and extraction of contents to be heated, the bottom end having an external bottom side for receiving heat;

a single thermally conductive member comprising a continuous piece of material fixedly attached to and positioned adjacent to and extending continuously along the entire extent of a peripheral edge of the external bottom side and having an inner peripheral edge defining an inner diameter and an outer peripheral edge defining an outer diameter, the conductive member having a plurality of undulating protrusions extending downwardly from the external bottom side; and

a burner having a heat outlet head disposed below and in a central position with respect to said external bottom side and having a fuel intake port configured to couple to a fuel source, the heat outlet head having a diameter less than said thermally conductive member inner diameter and being configured to deliver heat to a central area of the external bottom side”

The above claimed features relate to a so called “Fluxring®” which transfers heat from a butane burner to the vessel in a very efficient manner (i.e. around 80% efficiency rather than the conventional 40% efficiency).

The features discussed hereinabove, including the Fluxring®, are included in the Jetboil Personal Cooking System which was the only product sold by Jetboil, Inc. during the period of January 2004 through March 2006. Since March 2006, Jetboil, Inc. has added other related products but at the present time, it is estimated that the Jetboil Personal Cooking System accounts for 60% of the sales for Jetboil, Inc.

In 2004, Jetboil, Inc. introduced its Jetboil Personal Cooking System to the U.S. market. As a result, the product receive the following awards: (A) Time magazine’s one of the most amazing inventions of 2004; (B) Popular Science’s “Top 100 Tech

Innovations, 2004"; (C) Reader's Digest's "America's 100 Best"; (D) Backpacker's Editors Choice for 2004; and (E) the Outside Buyers guide "Gear of the Year";. (See Exhibits A, B, C, D and E). Each of these articles indicates that the Fluxring® and its associated efficiency improvement is the primary reason for the granting of the awards.

As a result of the recognition by the industry and others, of the uniqueness and innovative nature of the product, the market share of Jetboil, Inc., for single burner stoves including liquid fuel stoves, increased rapidly as shown graphically in Exhibit F. At the same time, the market share of other manufactures decreased accordingly as shown in Exhibit F. For example, the market share for Mountain Safety Research decreased from about 42% to 27%, while the market share of Jetboil, Inc. increased to about 46% and now has settled down to about 37%. Inasmuch as the above described awards articles: 1) were widely distributed and related to the attributes of the Fluxring®, and 2) very little funds were expended for advertising, I strongly believe that the success of the product is attributable to the claimed features as discussed hereinabove rather than as a result of extensive marketing efforts. In this regard, the extent of Jetboil's marketing activity includes only the opening of its website and the attendance at two trade shows (the August 2003 Summer Outdoor Retailer show in Salt Lake City, UT the July 2004 European Out Door show in Friedrichshafen, Germany).

Copying

Prior to the introduction of the Jetboil Personal Cooking System in 2004, the leading manufactures of outdoor cooking equipment made few changes and/or improvements to its products. In this regard, there was no integration of components, and there was little recognition of market needs. Exhibit G shows exemplary products of Mountain Safety Research, Primus and Snow Peak in the respective left three pictures, middle three pictures and right two pictures. These products clearly did not integrate the vessel with the heat exchanger or with the burner, nor did they even provide a heat exchanger for improved efficiencies. As indicated by the articles listed in Exhibit H, the industry recognized the leadership and the breakthrough that had been made by Jeboil, Inc. and informed the world of those facts. The complete article from

Backpacks, 2005 Gear Guide is included in Exhibit D, and the article in Snews, Gear Trends 2007 is included herewith as Exhibit I.

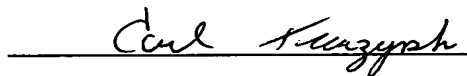
As a result of the notoriety and success of the Jetboil Personal Cooking System, the competitive manufactures commenced to duplicate or develop very similar features for their products as shown in Exhibit J wherein Primus, Kovea, and Mountain Safety Research are shown to have introduced products with an integrated heat exchanger and vessel, substantially as claimed by the applicants. Thus, it is evident that competitors in the market place are copying the present invention instead of using prior art apparatus.



Robert L. Lescanec

STATE OF NH)COUNTY OF Hillsborough) ss:

On this 15 day of Oct, 2007, before me, the subscribers(s) personally came **Robert L. Lescanec** to me known and known to me to be the person(s) described in and who executed the within instrument and he acknowledged to me that he executed the same.

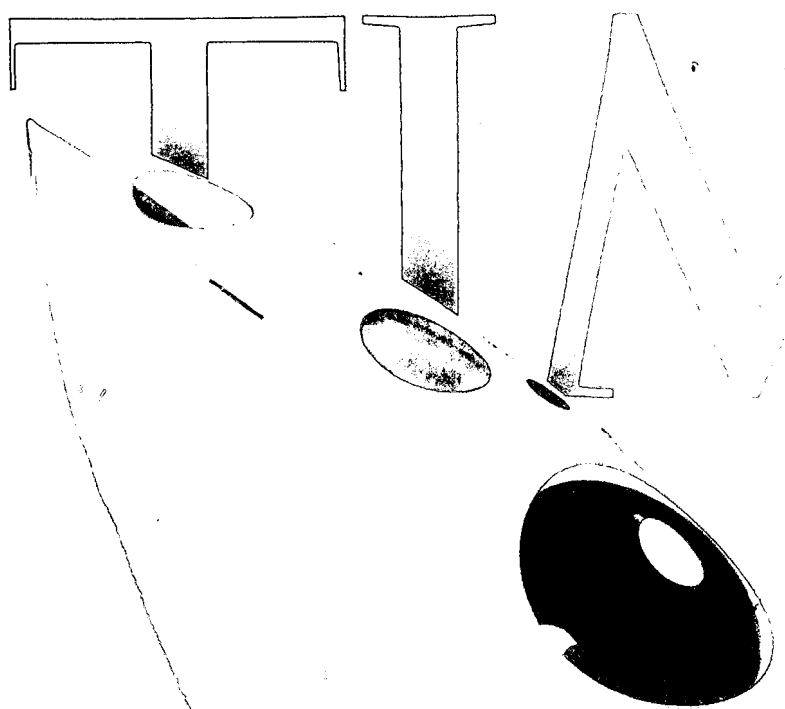


Notary Public

CARL D. TRACZYNSKI, Notary Public
My Commission Expires December 18, 2007

EXHIBIT A

BEHIND THE CIA SHAKE-UP
SPOOKED!



THE MOST
AMAZING

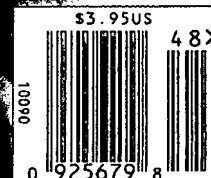
inventions OF 2004

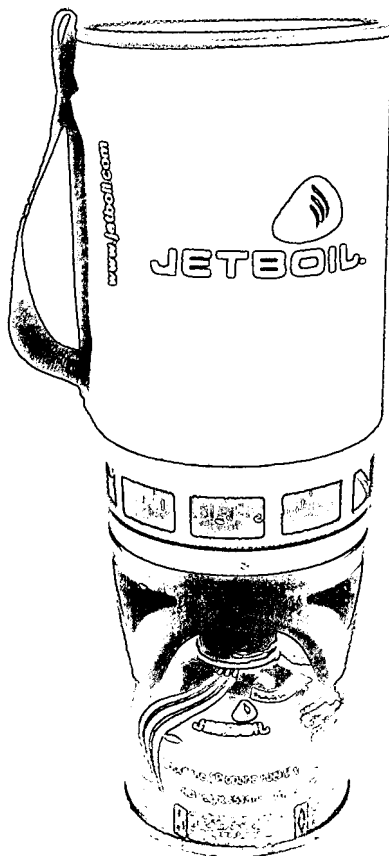
BURT RUTAN'S
ROCKET IS A REAL
BLAST! FIND OUT
ABOUT IT AND 36
OTHER BRAINSTORMS



Plus:

- Hot Tech Gifts
- Web Shopping Guide
- Best Video Games





BOILING POINT

Smokey Bear would love the Jetboil Personal Cooking

System, which cuts the risk of forest fires by allowing campers to prepare soup, pasta, rice and beans—any single-pot dish—quickly and safely. How? The flame is contained within the Jetboil's patented Flux Ring, which channels the heat from a butane burner directly into the vessel.

(Fuel canisters sold separately.) Bonus: a neoprene cover insulates the food while protecting campers' fingers from the heat.

INVENTORS Dwight Aspinwall, Perry Dowst

AVAILABILITY Now, \$79.95

TO LEARN MORE jetboil.com

hot & cold



THE BIG CHILL

When ice cream maker Ben & Jerry's asked a Penn State scientist to build a freezer that won't contribute to global warming, the result was like a frat-house experiment gone right. The apparatus uses sound waves to compress and expand helium, which in turn chills a liquid cooling agent—in this case, vodka. Bizarre, but it works: the stainless-steel canister was used last April to cool pints of Cherry Garcia and Chunky Monkey at a New York City scoop shop.

INVENTOR Steven Garrett

AVAILABILITY Prototype only

TO LEARN MORE benjerry.com

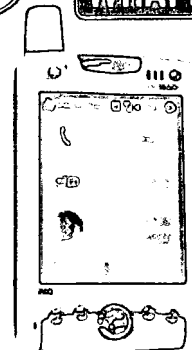
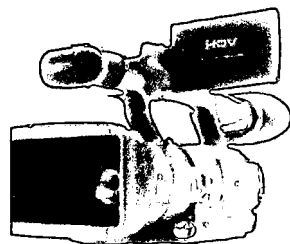
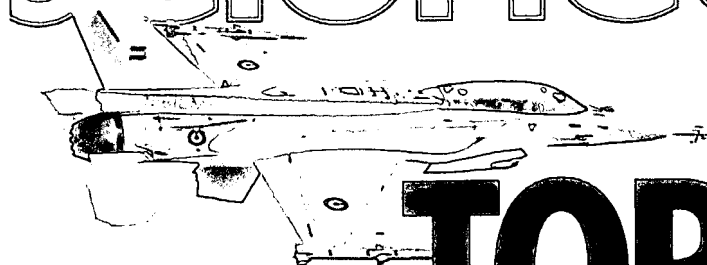


EXHIBIT B

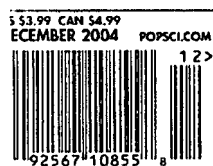
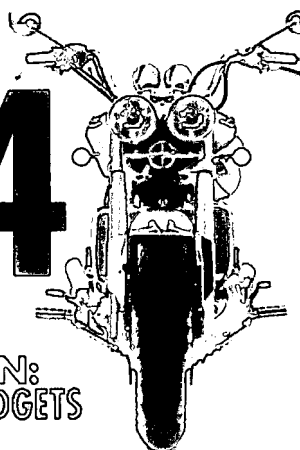
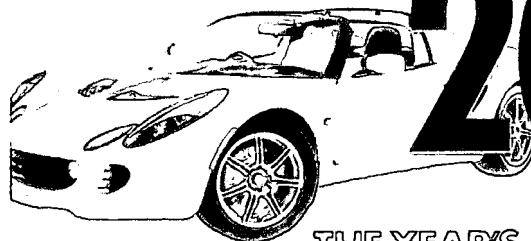
RED PLANET BONUS: THE LATEST, GREATEST PICTURES FROM MARS

POPULAR science

17TH
ANNUAL
BEST OF
WHAT'S NEW



TOP 100 TECH INNOVATIONS 2004



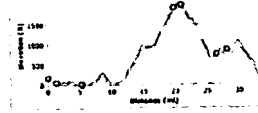
THE YEAR'S STANDOUTS IN:
SPACE > AVIATION > GADGETS
CARS > AUTO TECH > COMPUTERS
PHOTOGRAPHY > HOME ENTERTAINMENT
...AND MORE

Personal training via satellite

Charting your workout routines from week to week is the best gauge of progress. But who can be bothered? MotionBased software makes it as easy as strapping on any PC-enabled GPS device. Go for a run, log on to MotionBased's Web site, and upload data from the GPS unit. In the moments it takes you to catch your breath, the program slices and dices your stats into the major categories of time, distance, speed and elevation. Within these fields, performance can be reported (using graphs, charts, illustrations and maps) thousands of ways—speed on flats, deceleration at 8,000 feet, acceleration on hills in rain, and on and on. The software can even check your performance on a given route against others'. / \$8 to \$12 per month / www.motionbased.com



Elevation Profile

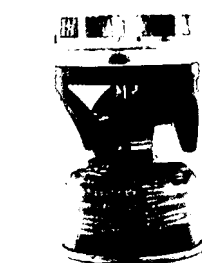
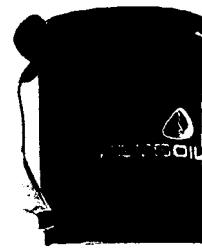


UVEX F1 MAGIC GOGGLES

Hit a button, avoid the tree, with the first ski goggles to switch tints instantly

There are primarily two ways that skiers and snowboarders deal with the constantly changing light conditions: 1) stop mid-run to swap out, say, darker lenses for lighter ones; 2) crash. The F1 Magic, however, puts the kibosh on such groove-scotching pit stops. Dyed liquid crystals on a flexible substrate are sandwiched between transparent lenses. When off, the liquid crystals align perpendicular to the lens surface, allowing light to pass through with a soft tint. When on, a charge snaps crystals into a spiral pattern. This blocks the light passing through and darkens the lens like blinds. A button on top of the small six-volt battery case turns the tint on and off. The goggles also come in handy for inconspicuous scouting après-ski.

/ 200 hours on one battery
/ \$210 / www.uvexsports.com



JETBOIL PERSONAL COOKING SYSTEM

Boil water in 60 seconds flat

With most lightweight camp stoves, less than half of the flame's heat actually reaches the pot, while the rest skitters away in the woody breeze. Long cooking times and having to haul extra fuel canisters are a drag. The 15-ounce Jetboil captures an unprecedented 80 percent of the flame's heat, courtesy of a metal ring that seals the gap between the flame and the double-duty pot bottom (it's also a mug). The flame heats the ring, which warms the pot and keeps out wind. Water boils in a mere minute. When disassembled, the burner, ring and fuel canister stow neatly inside the mug.

/ \$80 / jetboil.com

ODE TO THE DOME PART IV



Driving the weight weenies wild: The LED headlamp hit shops in 2000: Petzl's Tikka, a three-lighter that ran for 150 hours on three AAA batteries rather than eight hours on four AAs. The batteries fit into the slim housing itself rather than a wired ball pack, and it weighed practically nothing. Since then, Petzl, Princeton Tec and Black Diamond have been frenzied to make the lightest and brightest unit, using more robust LEDs and developing optics to better control the light.

CONTRIBUTORS: Mark Anders, Mitch Boehm, Robert E. Calem, Jonny Everett, Mark Riedy, Rob Sauerhaft, Anne Goodwin Sides, Trevor Thieme

CLOCKWISE FROM TOP LEFT: COURTESY MOTIONBASED TECHNOLOGIES, JOHN B. CANNETT (2)

EXHIBIT C



The Secrets of A+ Schools

Reader's Digest

Laura Bush

How books shaped
this only child

**The Hidden
Power of
Taste and
Smell**

**Miracle
Baby
A Family
Risks It All**

America's 1000 BEST

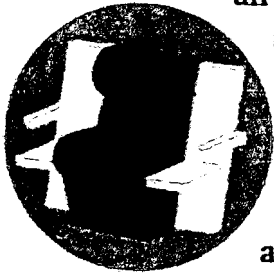
**Discovering New People,
Places, Trends, Adventures,
Amusement Parks, Hikes,
Preachers, Books, Coaches,
Wines, Charities, Apple Pies,
AND MORE**



May 2005
\$2.99
rd.com

★BESTINFLIGHTSERVICE★

Song, Delta's hip new airline, features 24 channels of live satellite TV, showing everything from FOX News to Animal Planet. Pick from among 10 movies, choose



an MP3 playlist from a bank of 1,600 songs, or play an interactive trivia game. As for food, the fixin's are just fine: Song sells chicken salad

with goat cheese and asparagus, and veggie sandwiches with roasted tomato and eggplant. Used to be that with vacation travel, "you looked forward to your flight as much as the destination," says Joanne Smith, Song's president. "We've tried to bring that feeling back."



★BESTCAMPINGGEAR★

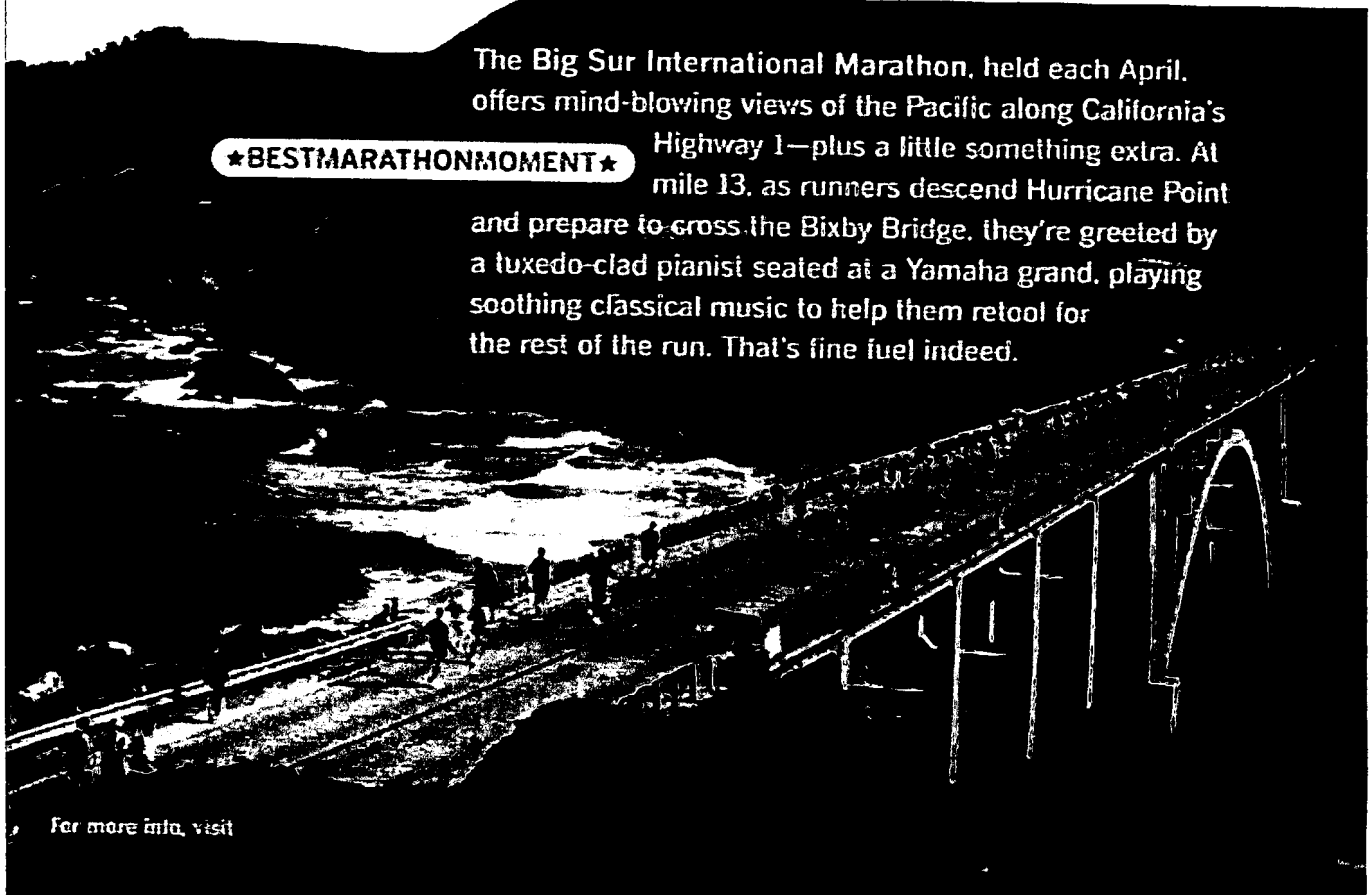
The Jetboil Personal Cooking System is hot. Very hot. It boils two cups of water in two minutes flat. Besides being remarkably efficient, it's also tops in innovation, with an electrical ignition system, insulated cooking cup, and a light-

weight, compact design that

makes it simple to use and easy to carry—so you can ditch those heavy backpacks. All this for \$79.95. New this year: companion cups for group cooking, and a French press setup to brew delicious home-style coffee on the trail.

★BESTMARATHONMOMENT★

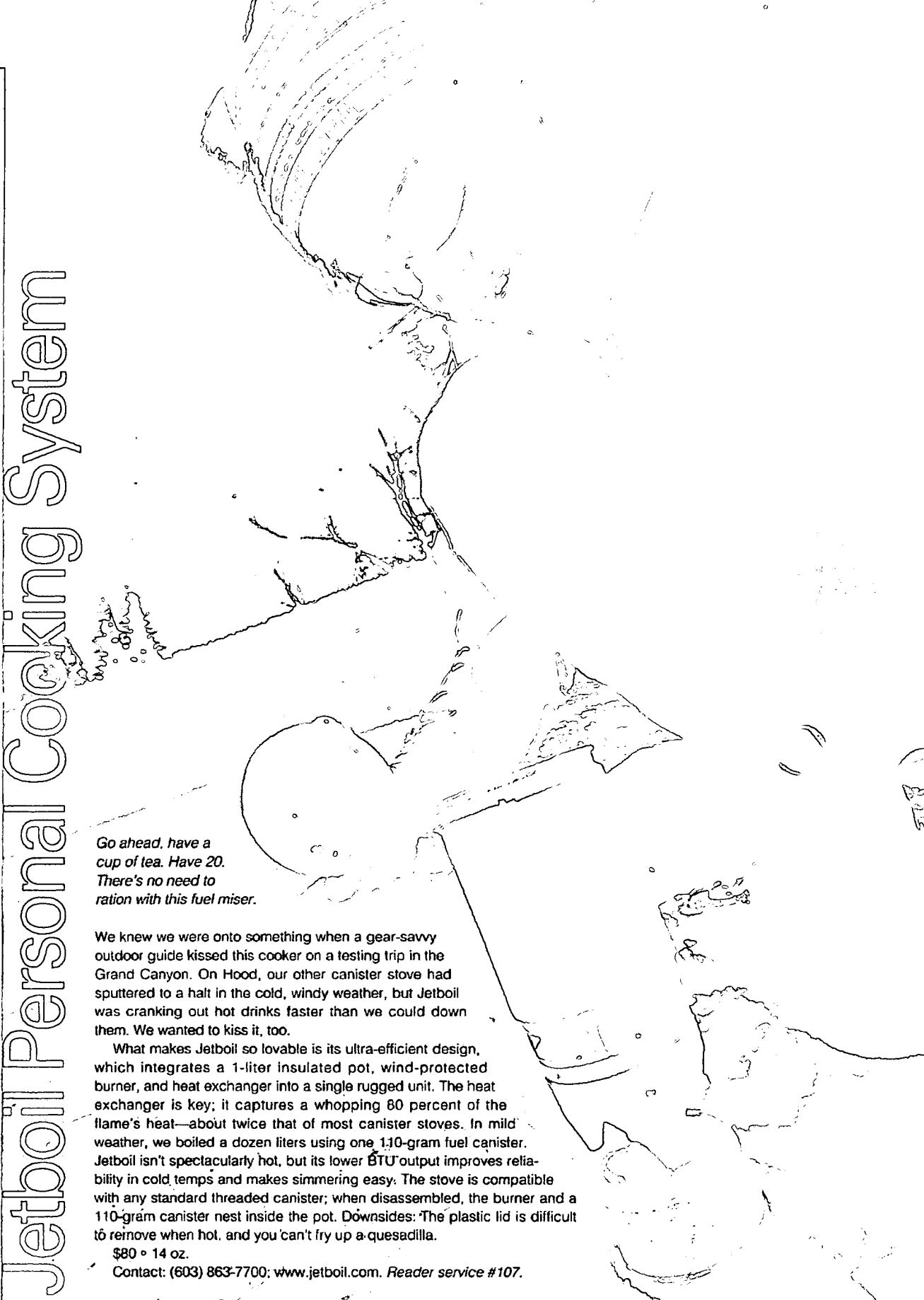
The Big Sur International Marathon, held each April, offers mind-blowing views of the Pacific along California's Highway 1—plus a little something extra. At mile 13, as runners descend Hurricane Point and prepare to cross the Bixby Bridge, they're greeted by a tuxedo-clad pianist seated at a Yamaha grand, playing soothing classical music to help them retool for the rest of the run. That's fine fuel indeed.



For more info, visit

EXHIBIT D

Jetboil Personal Cooking System



Go ahead, have a cup of tea. Have 20. There's no need to ration with this fuel miser.

We knew we were onto something when a gear-savvy outdoor guide kissed this cooker on a testing trip in the Grand Canyon. On Hood, our other canister stove had sputtered to a halt in the cold, windy weather, but Jetboil was cranking out hot drinks faster than we could down them. We wanted to kiss it, too.

What makes Jetboil so lovable is its ultra-efficient design, which integrates a 1-liter insulated pot, wind-protected burner, and heat exchanger into a single rugged unit. The heat exchanger is key; it captures a whopping 80 percent of the flame's heat—about twice that of most canister stoves. In mild weather, we boiled a dozen liters using one 110-gram fuel canister. Jetboil isn't spectacularly hot, but its lower BTU output improves reliability in cold temps and makes simmering easy. The stove is compatible with any standard threaded canister; when disassembled, the burner and a 110-gram canister nest inside the pot. Downsides: The plastic lid is difficult to remove when hot, and you can't fry up a quesadilla.

\$80 • 14 oz.

Contact: (603) 863-7700; www.jetboil.com. Reader service #107.

threads aren't universal, so you have to find Coleman canisters. \$90 • 1 lb. 12 oz.

HANK ROBERTS MINI MARK III

Inexpensive and lightweight for a remote burner, this unit works best for smaller groups who want a stove for baking use. Stainless steel durability and simmer control are good, and we like the way the base and pot support disassemble to make a protective case. But it's not quite as hot or stable under large pots as others, and assembly takes more futz. Tip: Skip the Hank Roberts fuel canisters; we've found they're not as hot as other brands. \$33 • 8 oz.

SNOW PEAK GIGAPOWER BF

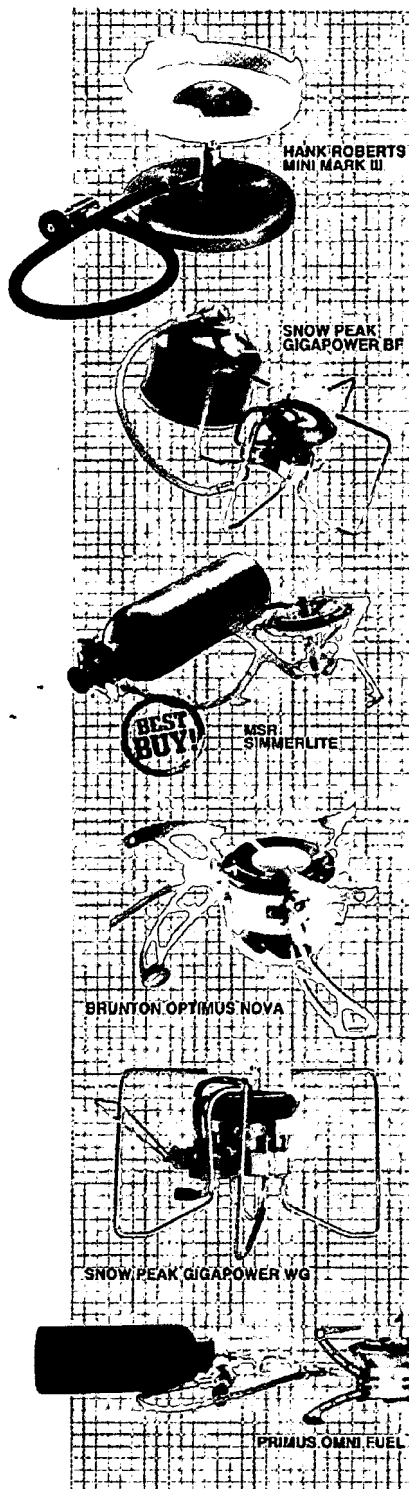
Got a 3-liter pot that needs steadying? This solidly built cooker is one of the most stable we've used, thanks to four wide, sturdy pot supports. Other details we like: The flame control is far enough from the burner that you won't burn your fingers; heat output and simmering are both excellent; and the burner has a built-in wind guard. \$80 • 11 oz.

LIQUID FUEL STOVES

These stoves burn hot and efficiently, even in deep cold, making them a great choice for high-mountain or winter trips, or extended treks when multiple canisters are cumbersome to carry. They also allow you to bring exactly the amount of fuel you require; on international trips, multi-fuel models burn everything from kerosene to unleaded. The trade-off? Most require regular cleaning, and few simmer as well as canister models.

MSR STOVES

We've used the MSR family of liquid-fuel stoves across the country and around the world. All are efficient, stable, and easily field-repairable, a feature that helped the classic WhisperLite (\$60; 11 oz.) win an Editors' Choice Award (4/94) for its reliability. Another staff favorite, the XGK (\$110; 12 oz.), has long been on our Rocky Mountain editor's essential high-mountain gear list for its quick boil times, cold-weather performance, multifuel capability, and durable



construction. Last year, MSR solved its perennial Achilles heel—poor simmering—with the SimmerLite (\$90; 8.5 oz.; *Outfitting*, 4/03), which not only cooks gourmet recipes, but is the lightest and quietest while-gas stove we've used.

BRUNTON OPTIMUS NOVA

Simply one of the best all-around backpacking stoves we've tested, thanks to super simmering, ultrafast priming, great performance in subfreezing temps, and a cleaning needle that works while you're cooking. These qualities, plus its bend-resistant construction, earned the Nova an Editors' Choice Award (4/01). \$149 • 15 oz.

SNOW PEAK GIGAPOWER WG

Love white gas heat, hate priming? Get the first and ditch the latter with this innovative stove, which earned an Editors' Choice Award (4/01) for its no-priming start. We also love how quietly it simmers and how well the burner protects the flame without a windscreen. \$150 • 12 oz.

PRIMUS OMNI FUEL

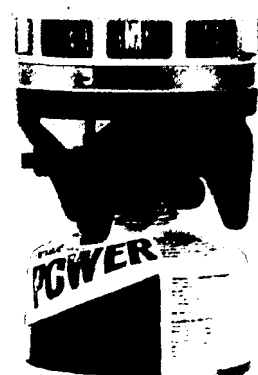
Can't decide between a liquid-fuel or canister stove? Get both with this two-in-one cooker, which won an Editors' Choice Award (4/98) for its unparalleled versatility and ease of operation (you don't need an engineering degree to switch back and forth). Stable, serrated pot supports keep pots in place, and fine flame control lets us simmer sauces one moment and melt snow the next. \$139 • 1 lb. 3 oz.



Fast Food

Quick to boil, a miser on fuel, light in the pack. This all-in-one cook system is in a class by itself.

Fast food just got a whole lot faster. After a windy week in the Grand Canyon, our tester is impressed with the weatherproofing and efficiency of **Jetboil**, an innovative new stove system. It integrates an insulated 1-liter pot/cup with a windproof canister stove, yielding mug after mug of boiling water even while other burners were getting snuffed out by strong gusts. It conserves fuel like a Honda, but still boils a liter in less than 5 minutes. Watch for a full review in the April issue. \$80 • 12 oz.



402 BAGS 398 PACKS 261 TENTS

BARGAINS
27 SMOKIN' DEALS

BACKPACKER

THE OUTDOORS AT YOUR DOORSTEP

2005

GEAR
GUIDE

BEGINNER
GUIDE (P. 88)

FIND YOUR
PERFECT FIT

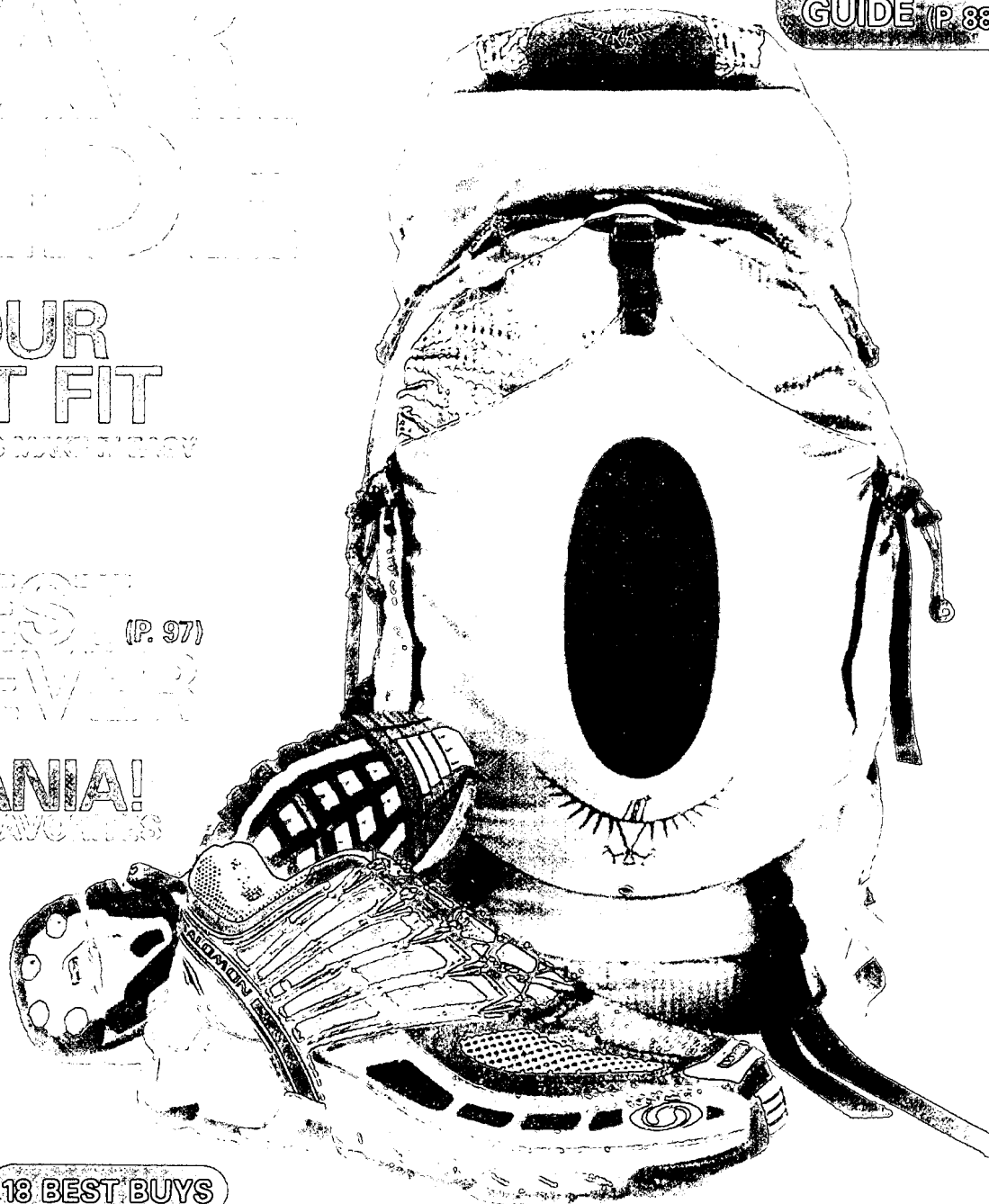
(NEW!) CHALLENGING WORKER

YOUR
HIGHEST
ROAD EVER (P. 97)

SHOE MANIA!

51 HAND-TESTED FAVORITES

TO THE GRAB
NEXT-WAVE
ULTRALIGHTS



MARCH 2005

\$3.99US \$4.99CAN



03>

0 74808 01107 0
WWW.BACKPACKER.COM

18 BEST BUYS

STOVES OPS CANOES ORNEN (CAN) HEADLAMPS (CAN) (CAN) (CAN)



GREG HUMMEL
READIES HIS
TREKKING-
FISHING POLE.

Homemade Gear Awards

When these hikers didn't find what they wanted on store shelves, they hit the drawing board.

At the annual sendoff for Pacific Crest Trail thru-hikers held each spring at southern California's Lake Morena Campground, long-distance trail rats gather to compare blisters and show off their homemade gear. Here's a sampling of do-it-yourself inventions you might see on the PCT this year.

HIKER

John "Sycamore"
Hildebrand

GEAR

Portable Awning

FUNCTION

Hands-free relief
from hot sun or rain

INSPIRATION

Ever tried to carry
an umbrella and a
trekking pole at the
same time?

CONSTRUCTION

A little siliconized
nylon, some alu-
minum hinges, and
bent tent poles

NEXT STEP

Add a drink holder

HIKER

Steve "Garlic Man"
Walters

GEAR

Lace Saver

FUNCTION

Provides an anchor
for gaiters

INSPIRATION

Replacing laces
shredded by gaiter
hooks gets old fast

CONSTRUCTION

A piece of wire
looped between
boot eyelets

NEXT STEP

Hire a marketing
exec who can con-
vince people to buy
a tiny piece of wire

HIKER

Read "Reader"
Miller

GEAR

Fishing-Trekking
Poles

FUNCTION

Fishing rods turned
into ultralight hiking
sticks

INSPIRATION

When the fish aren't
biting, your fishing
pole is dead weight

CONSTRUCTION

Deep-sea poles cut
to size, with cork
trekking pole
handles affixed

NEXT STEP

Develop companion
line of dehydrated
earthworms

HIKER

Greg "Strider"
Hummel

GEAR

Trekking-Fishing
Poles

FUNCTION

Hiking sticks that
double as fishing
rods

INSPIRATION

Fish jumping,
nothing to catch
them with

CONSTRUCTION

An off-the-shelf
trekking pole with
a spinning reel
fixed to the handle
and wire guide
rings for the line

NEXT STEP

Get a patent before
Leki does

Shop And Awe

When government agents get dispatched to the war zone, they pick up last-minute supplies the same place we do—the local outfitter.

In the past year, the Eastern Mountain Sports store in Arlington, VA, has experienced a rush of new customers, and it's not because a bunch of poils have started hiking. EMS and other outdoor retailers inside the Beltway have become must-stop shops for civilians and military officers heading to the likes of Afghanistan and Iraq. We asked James Howarth, manager of Arlington's EMS, what it's like to outfit them.

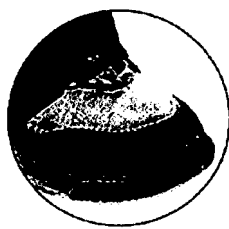
BACKPACKER: What are they buying?
James Howarth: Mostly clothing. Long underwear, waterproof/breathable jackets, boots, a lot of socks. But also hardware like Petzl's Tactikka headlamp, Garmin GPS units, and Jetboil stoves.

BP: How do their needs differ from a typical hiker's?

JH: Outerwear should be a smidge larger than usual to fit comfortably over armor. Zip-in linings are preferred for easy access to weapons if it's cold. Conservative, noncamo colors, mostly black and navy, keep them discreet.

BP: Are they into ultralight?

JH: Durability is more important than weight savings. They get sturdier packs and heavier boots than most civilians would purchase for similar duty.



[KITCHEN]

Xpert (\$50; 14 oz.) and Xtreme (\$60; 11 oz.), shared Editors' Choice honors (4/97) for their stability, wind-resistant flame, and excellent heat control. Bonus: The canisters are recyclable, and the Xpedition's price has dropped 15 bucks. Demerit: The stoves run only on Coleman Exponent's Powermax canisters, which can be hard to find. \$75; 1 lb. 10 oz.

Self-Contained Cooking Systems

A category of one, created and still occupied solely by Jetboil. This unit has so many advantages—including low weight and packability—that it's in a class by itself.

JETBOIL PERSONAL COOKING SYSTEM

Once in a while, something comes along that changes the paradigm. This burner-heat-exchanger-pot system struck us as so radically cool that it was a shoe-in for an Editors' Choice Award (4/04). The ultra-efficient design integrates a 1-liter insulated pot, wind-protected burner, and heat exchanger into a single unit that presents a quantum leap in efficiency: The heat exchanger captures 80 percent of the flame's heat, about



twice that of most canister stoves (a stat which bore out in our testing—we boiled a dozen liters with one 110-gram fuel canister, about twice what the competition managed). That efficiency allows the Jetboil to burn at a lower BTU output, improving cold-temp performance and simmering. The stove screws onto any standard threaded canister, and the disassembled burner and a 110-gram canister nest inside the pot. Its only weaknesses: The plastic lid is difficult to remove when hot, and you can't fry anything with this stove. Tip: File off the edges holding the plastic cup to the heat exchanger, and the cup will come off more easily. New for 2005: Jetboil's Companion Cup (\$30; 9 oz.) gives you the entire unit sans burner, for more convenient cooking for two without the cost and weight of the whole package. And the Coffee Press (\$20; 1.2 oz.) is a nifty little item that lets you brew java right in the mug. \$80; 12 oz.

Liquid Fuel Stoves

If you're heading out in high mountains or winter conditions, or on extended treks, these stoves are indispensable. They burn hot and efficiently, even in deep cold and hammering winds, and you carry only as much fuel as you need. Going overseas? Multifuel models run

ReviveX®

"ReviveX® rejuvenates all my outerwear, tents, sleeping bags and boots. With ReviveX, my gear is ready for extreme alpine weather."

—Conrad Anker, leading high altitude climber

Does your jacket
"wet out"?

Or is it
ReviveX®
Dry?



Ideal for GORE-TEX® garments, GORE-TEX® XCR® footwear and other waterproof breathables.

GORE®, GORE-TEX® and GORE-TEX® XCR® are trademarks of W. L. Gore & Associates, Inc. McNETT® www.mcnett.com

www.revivex.com

Conrad Anker
Everest Climber

Ultralight Hiking

SAVE SPLURGE

PACK

Gregory G Pack \$139; 2 lbs. 9 oz.

Thanks to its hip-hugging belt and innovative suspension, this weekender carries 30 pounds more comfortably than any other sub-3-pound pack we've tested.

BOOTS

L.L. Bean GTX Ridge Runner Mid Hikers \$79; 2 lbs. 2 oz.

With excellent ankle support for their weight, these waterproof, midcut boots gave our testers a case of reverse sticker shock. Fit is best for high-volume feet; if yours are thin, add a pair of thick insoles.

SHELTER

GoLite Lair 1 \$100; 12 oz.

Pitch this siliconized nylon tarp with two trekking poles, then sit back to enjoy open views from a space big enough for two or three. Key feature: A rear panel that keeps out wind-driven rain.

SLEEPING BAG

Kelly Light Year 25 \$150; 25°F; 2 lbs. 2 oz.

Now available in a women's model, this 650-fill-power down mummy rates highly with testers who want a super-packable summer-plus bag that doesn't go light on elbowroom.

SLEEPING PAD

Therm-a-Rest Z-Lite \$35; 34"x72"x20"; 15 oz.

This classic (formerly called the Z-Rest) is pricier than other closed-cell foam mats, but the dimpled construction also makes it noticeably warmer and cushier.

STOVE

Jetboil Personal Cooking System \$80; 12 oz.

This stove-and-pot combo saves weight and money through efficiency: The built-in heat exchanger captures 80 percent of the flame's heat, allowing you to carry less fuel (Editors' Choice Award, 4/04).

PACK

Granite Gear Nimbus Ozone \$195; 3 lbs.

This versatile pack won't wilt when you have to go more than a week between resupplies, thanks to a suspension that can handle 40 pounds. Reinforcements at key wear areas prevent ultralight meltdown.

BOOTS

Nike Air Zoom Tallac+ \$140; 21 lbs.

The new-and-improved version of this Editors' Choice Award winner (4/04) still delivers incredible comfort and ankle support for its low weight, but it's now made with tougher materials and a toe cap.

SHELTER

Black Diamond Lighthouse \$369; 3 lbs. 3 oz.

Living space and weight savings form an unlikely marriage in this Editors' Choice pick (4/04), a freestanding single-wall made from Epic by Nextec fabric. Elbowroom will make two 6-footers happy.

SLEEPING BAG

Feathered Friends Swallow UL Nylon \$286; 20°F; 1 lb. 11 oz.

Your fleece jacket takes up more pack space than this bag, which uses premium down and superlight shell materials to create a three-season bag that's roomier than many other ultralight mummies.

SLEEPING PAD

Big Agnes Insulated Air Core \$65; 22"x72"x20"; 1 lb. 5 oz.

If a good night's sleep is worth a few extra ounces, get this award-winning pad (Editors' Choice, 4/04). It packs smaller than a self-inflater, and features 2 1/2 luxurious inches of insulated air cushion.

STOVE

MSR SuperFly \$60; 5 oz.

Get more versatility with this midget stove, which simmers well and mates with both screw-on and plug-in canisters. Add MSR's Titan Mini Cookset (\$90, 9.6 oz) for ultralight, user-friendly cookware.



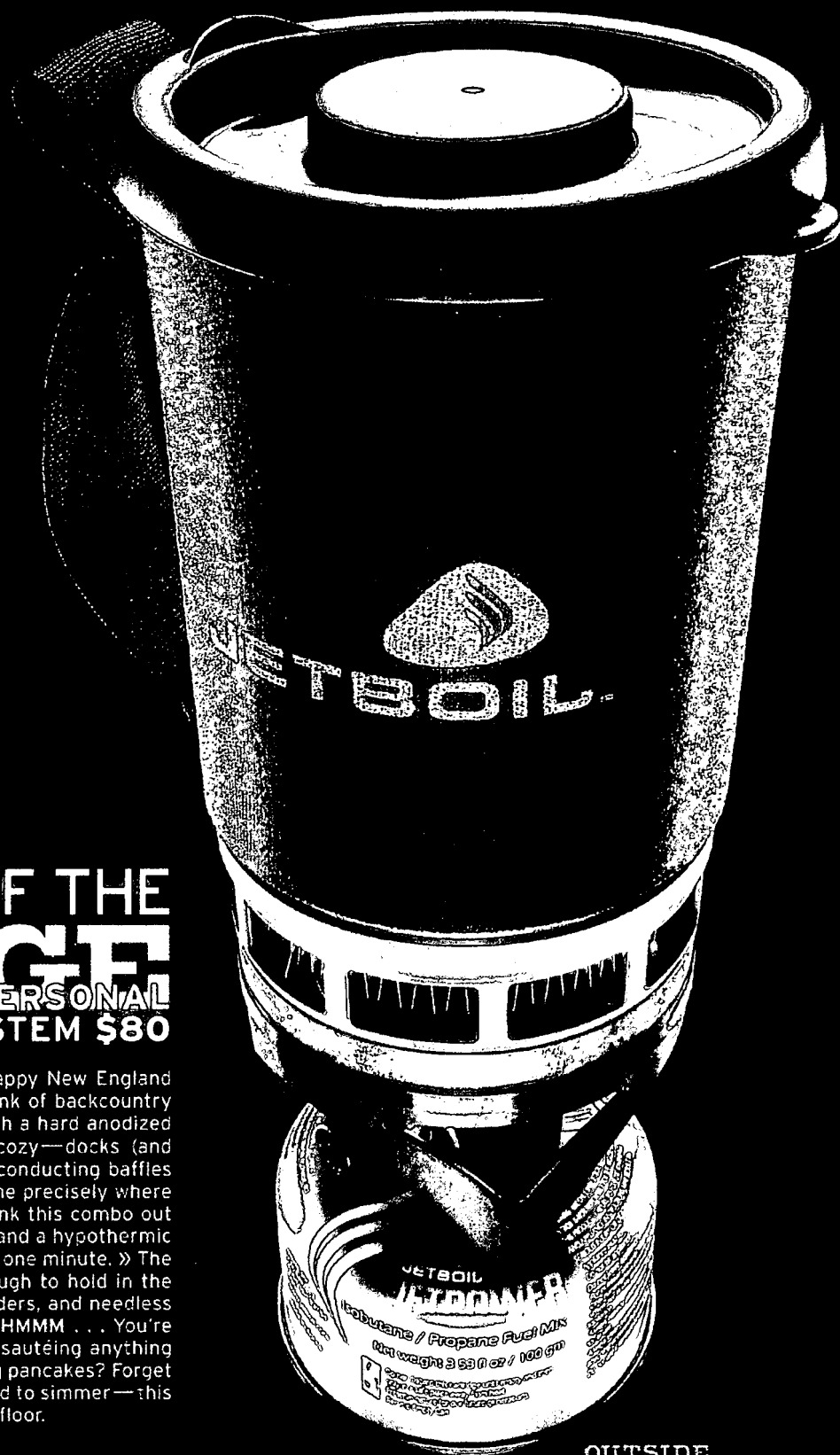
TREKKING POLES PREVENT ANKLE SPRAINS WHEN YOU'RE WEARING LOW-TOE LIGHTWEIGHTS ON ROUGH TERRAIN. FOR THE LIGHTEST STICKS WE'VE EVER TESTED, SEE PAGE 106.

EXHIBIT E



CAMP STOVES

PHOTOGRAPH BY NIGEL COX



DAWN OF THE JET AGE

*JETBOIL PERSONAL
COOKING SYSTEM \$80

WHY IT RULES: The first effort from a scrappy New England startup, the Jetboil represents a total rethink of backcountry cookery. A tall one-liter pot—aluminum, with a hard anodized cooking surface and insulating neoprene cozy—docks (and locks) to the stove's burner. A ring of heat-conducting baffles attached to the pot's base channels the flame precisely where it's needed. » The result: a furious heat. Yank this combo out of your pack, flick the bomber piezo igniter, and a hypothermic comrade can have a cup of lip-scalding tea in one minute. » The neoprene cozy, with handle, stays cool enough to hold in the hand: Bye-bye, additional cookware, pot holders, and needless extra weight. **BURNS:** Isobutane canister. HMMM... You're pretty much committed to one-pot cuisine; sautéing anything larger than a shallot is awkward. And flipping pancakes? Forget about it. » The Jetboil complains when forced to simmer—this joy likes to run with the accelerator on the floor.

OUTSIDE
2004 BUYER'S GUIDE 103

DWIGHT ASPINWALL & PERRY DOWST GEAR SAVANTS

What do you get when two New Hampshire engineers train their Ivy League brains on the lowly camp stove? Say hello to the Jetboil, a snazzy, all-in-one portable kitchen that—in 11 months on the market—has revolutionized backcountry cooking. It began as a brainstorm back in the nineties, when software engineer Dwight Aspinwall, now 43, was trekking Tasmania's rain- and wind-pummeled South Coast Track. Every day, he'd watch his Aussie friends root around in their packs for their stoves, their pots, and their matches to make afternoon tea. Gotta be a better way, he thought. In 2001, Aspinwall teamed up with his second cousin, engineer Perry Dowst, 44. Three years and a few accidental fires later, the \$80 Jetboil Personal Cooking System was born—an integrated fuel burner/pot/mug combo with a *Star Trek*-looking "FluxRing" heat exchanger that gives it double the heat-transfer efficiency of most other backpacking stoves. All you really need to know, though, is that, with infomercial-worthy ease and a flick of a knob (no lighter required!), it boils a cup of water in 60 seconds and uses 50 percent less fuel than a standard camp stove to do it. Since arriving in outdoor stores last January, Jetboil has become the buzz of bivy ledges and surf breaks nationwide—with everyone from firefighters to alpinists preaching the gospel of a fast cup of Joe on the go. "A monkey could put this thing together and start boiling water within a minute," says mountain guide Steven Tickle, who packed Jetboils for his clients' fast-and-light assault on Nepal's 22,494-foot Ama Dablam this fall. "You can always rely on it."

—CHRISTOPHER SOLOMON

ARNOLD SCHWARZENEGGER ENVIRONMENTAL ACTION HERO

When he took over as governor of California in November 2003, Arnold Schwarzenegger, the 57-year-old, Austria-born bodybuilder and action-film star, was poised to do what many thought was impossible: turn the GOP—or at least his Left Coast slice of it—green. "Jobs vs. the environment" is a false choice," he said on the campaign trail, and then he backed it up with an ambitious environmental action plan for California that included mandates to cut air pollution in half

by 2010; start a Green Building Bank, offering incentives to eco-friendly construction projects; and ensure that 20 percent of California's power comes from renewable sources by 2010 (and 33 percent by 2020). So how's he doing so far? After focusing on budget deficits and government restructuring for the first ten months of his term, in September the Governor signed into law more than 20 pro-environment bills, creating the Sierra Nevada Conservancy to protect 25 million acres of central California and cracking down on cruise-ship pollution, while also backing a 25 percent reduction in exhaust emissions from cars and light trucks by 2016. Even skeptical groups like

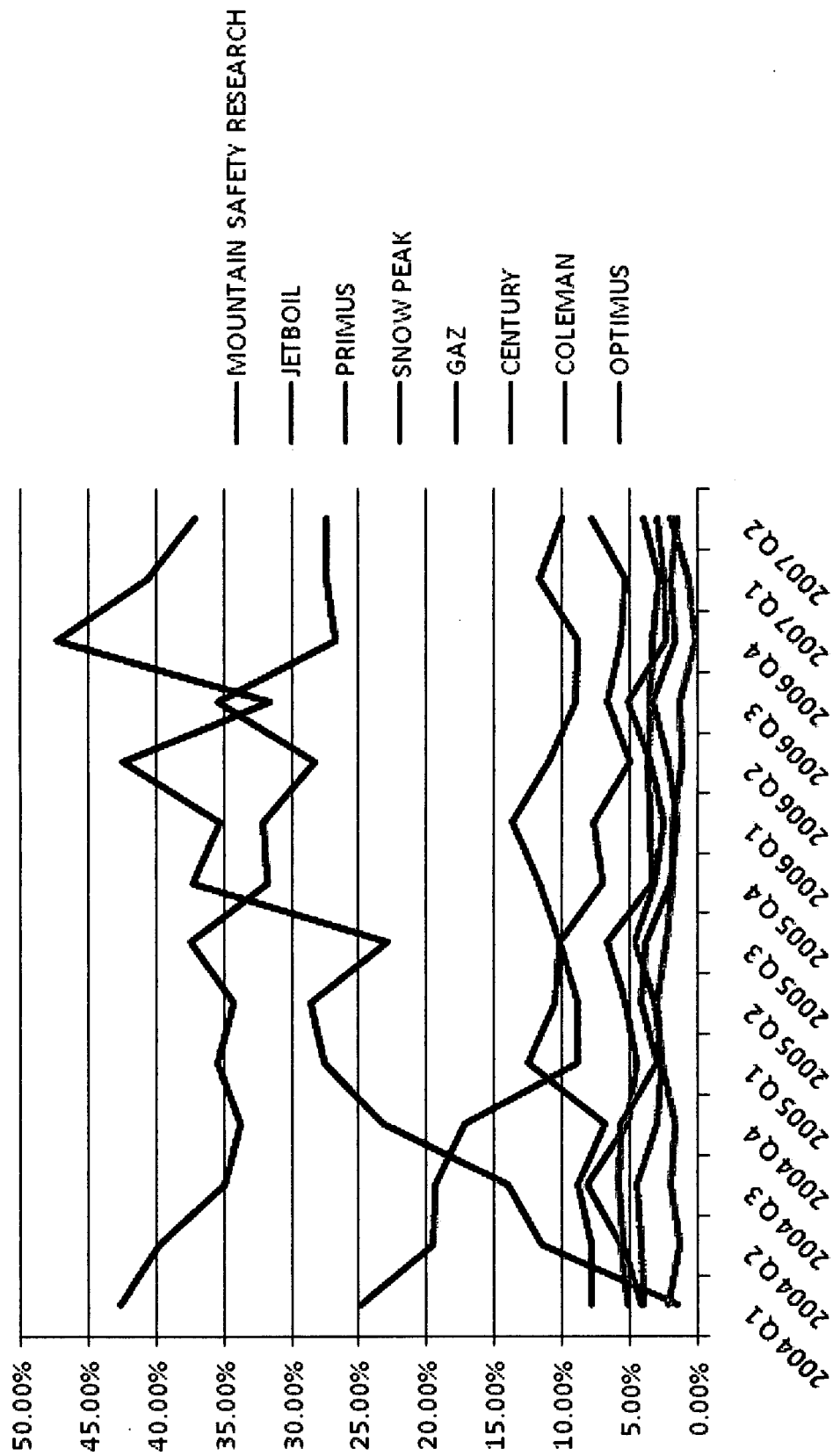
the Sierra Club are giving him a cautious thumbs-up. "He's off to a fair start in signing legislation," says Bill Allayaud, legislative director of Sierra Club California. "But his whole record is uneven." Right, and what about the famous vow to modify one of his Hummers into a hydrogen-fuel-cell hybrid? California EPA director Terry Tamminen, the former head of Santa Monica BayKeeper whom Arnold appointed at the recommendation of cousin-in-law Robert F. Kennedy Jr., is standing by his boss. "He promised to convert one of his Hummers to hydrogen during the campaign," says Tamminen, "and the governor is always a man of his word."

—JL



EXHIBIT F

Market Share Growth



All stores, single burner stoves inc. liq. fuel, all brands, all price points

EXHIBIT G

pre-2004: Innovation Stagnation

- Outdoor cooking was a stodgy category with little innovation
- Leading manufacturers
 - Stoves, pots/pans, no integration
 - Duplicated each other's products
 - Did not recognize market needs

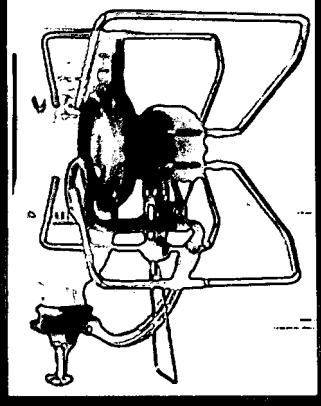
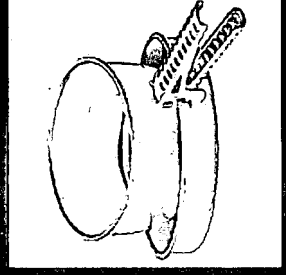
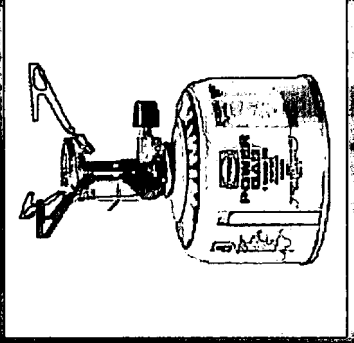
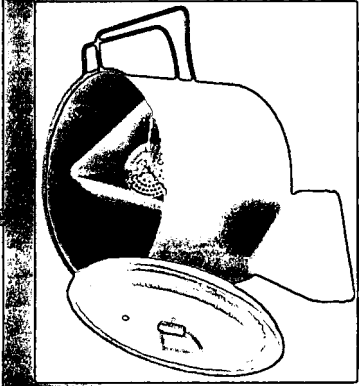
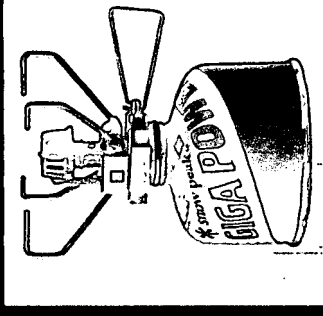
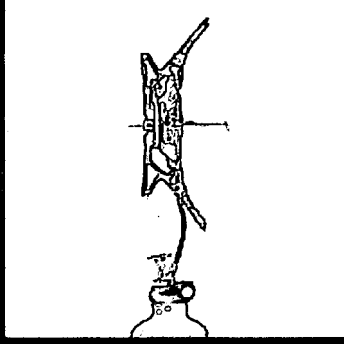
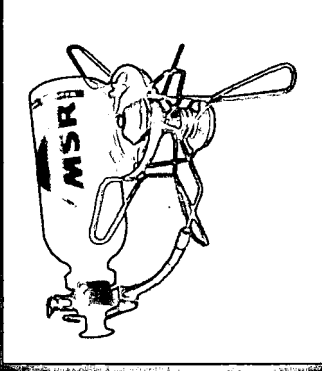
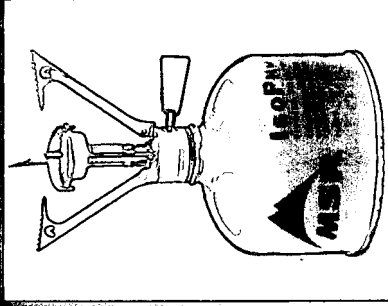


EXHIBIT H

2004: Jetboil Defines a Category

- “Once in a while, something comes along that changes the paradigm.”
 - Backpacker, 2005 Gear Guide
- “A category of one, created and still occupied solely by Jetboil.”
 - Backpacker, 2005 Gear Guide
- “Jetboil was a revolution in the market.”
 - D. Keegan, MSR product manager as reported in SNEWS, GearTrends 2007

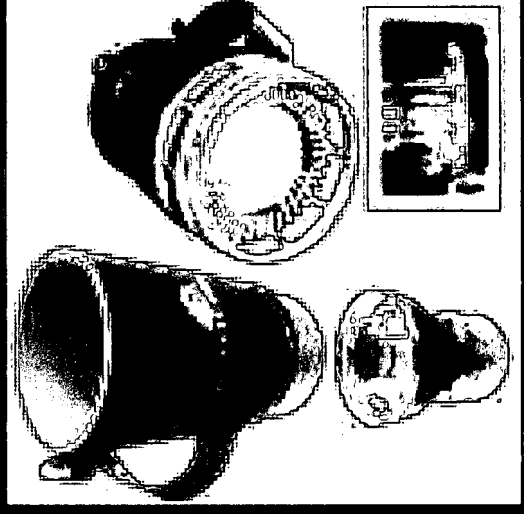
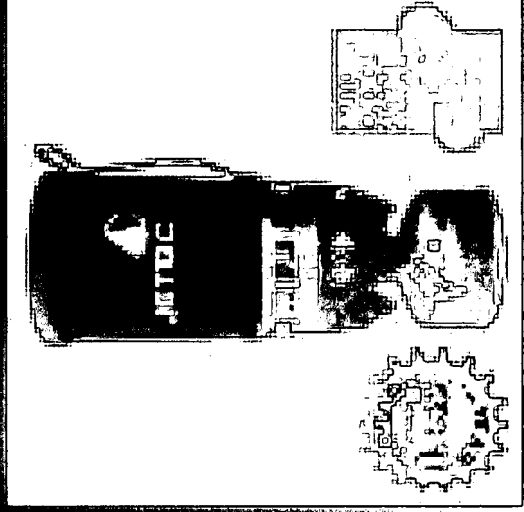


EXHIBIT I



+ the heat IS ON

BY MARCUS WOOLF

Hot competition in the stove market *sparks* great innovation.

if the original MSR Whisperlite stove were a car, it would be considered an antique. Remarkably, the Whisperlite still competes in the outdoor market, despite its 25-year-old design. We certainly applaud the stove's staying power, but its ability to hang around also demonstrates that stoves haven't progressed at the rapid rate we've seen with other gear. Look around your store—how many leading products tout technology dating back a quarter century? Certainly, stoves have improved gradually over the years,

but for a long time the market merely simmered, with true innovation flaring up infrequently. In the last four years, however, stove designers have been on fire, and intense competition has quickened the pace of product development.

"Definitely, within the last few years, there's been a lot more activity and more visibility in a market that was somewhat stagnant," said James Christian of Coleman. "I don't know if the resurgence of technology is being pushed by consumer demand or by manufacturers, but it's great." According to stove manufacturers, Jetboil deserves much of the credit for moving things forward.

STOVES BEGIN TO BOIL

In 2004, Jetboil launched its cooking system (MSRP \$90), which included a burner and cup-like pot that featured an integrated heat exchanger, which transfers heat from the burner to the cup efficiently. Also in 2004,

PHOTOGRAPHY BY DAVID ECKEL/COURTESY OF JETBOIL



Jetboil received Time Magazine's Most Amazing Invention award, and competitors immediately recognized the product's potential impact.

"Jetboil was a revolution in the market," said Drew Keegan, MSR product line manager for stoves, cookware and fuel.

The Jetboil proved an instant success for several reasons: First, it used canister fuel; stoves utilizing canisters had been gaining popularity because most backpackers found them easier to use than liquid-fuel stoves, which required priming. But the team at Jetboil took the canister-stove concept to a new level.

Most notable was its heat exchanger, which helped the stove boil water in about two minutes. The stove also proved extremely convenient and easy-to-use, allowing a person to cook, eat and drink from a single vessel that fit in the palm of a person's hand. If a person packed a Jetboil stove, he or she could travel without extra pots, which fit the growing trend toward packing light. Also, the Jetboil's components fit into the cup, so the whole shebang took up little space in a backpack. As outdoor magazines heaped praise upon Jetboil, a couple of competitors were likely kicking themselves for not launching this type of stove first.

Actually, Jetboil was not the first company to experiment with a heat exchanger. Primus looked at the concept 10 years ago, said John Smithbaker, president and CEO of North American Gear, which acquired U.S. distribution for Primus in 2006. He told GearTrends that even though Primus had worked on heat exchangers, it didn't think the concept had any market value a decade ago. "Primus made a misstep," said

Smithbaker. OK, maybe the company was ahead of its time, but this wasn't a misstep, it was a face-plant.

Of course, Primus wasn't the only company to throw water on the heat exchanger idea. "We actually worked on that concept six years ago," said Keegan of MSR.

"We didn't get super far down the line, but we got it to a point, and the marketing department didn't think there was a market for it." He said people in the company believed that consumers didn't want to be forced to buy an integrated pot and stove. Rather, the conventional thinking was that campers wanted the flexibility to mix and match stoves with pots they already owned, or use stoves with a variety of pots from various manufacturers. Even more remarkable was the fact that MSR had long offered a heat exchanger as an accessory, but this product was not integrated well into a stove system, so many consumers ignored it.

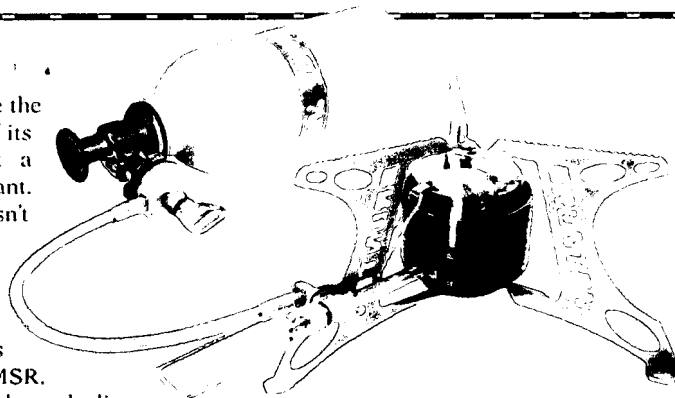
Despite their initial hesitations, MSR and Primus responded to Jetboil in 2006 with new stoves that boast their own new concepts that are generating plenty of interest.

STRONG REACTION

As this magazine went to print, retailers were eagerly awaiting delivery of MSR's new Reactor stove (MSRP \$150), but the industry has already hailed it as a major achievement in stove design. Developed over the course of two and a half years, the Reactor not only boils water lickity split, but it also maintains consistent performance throughout the life of a canister and is pretty much impervious to wind.

Like the Jetboil stove, the Reactor features a burner with an integrated heat exchanger, which takes the heat produced by the burner flame and transfers it to a pot. However, the Reactor also uses radiant heat for added oomph. Inside the burner unit there is a piece of metallic foam (borrowed from the fuel cell industry) that absorbs and radiates heat, which combines with convective heat for a powerful one-two punch.

The Reactor also addresses performance problems associated with canisters. The drawback to a canister is that its internal pressure decreases as the fuel empties, decreasing its performance. As a result, many canister stoves work really well when a canister is fresh, but suffer longer boil times as the fuel runs low. MSR dealt with the challenge by outfitting the Reactor with an internal pressure regulator that is cali-



» Brunton's Vapor AF

brated to ensure that the stove draws consistent pressure throughout the life of a canister.

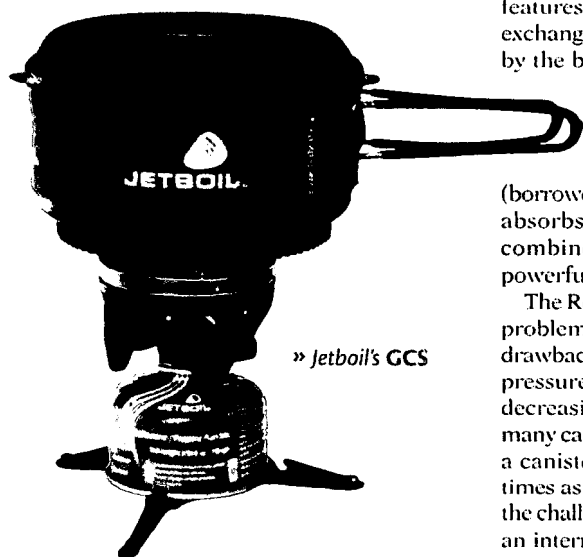
To further increase the Reactor's effectiveness, it uses something the lab wizards call "100 percent primary air." Most stoves that use convective heat rely on hot air simply rising from the burner. But with the Reactor, outside air enters an enclosed chamber (through holes) and is forced into the burner system. This system not only harnesses the maximum amount of air possible, but it also moves heat more quickly, so this forced convection is more efficient than standard convection. As an added plus, the enclosed burner is not susceptible to wind. Our editors placed the stove 6 inches from a floor fan set on high, and the Reactor suffered no ill effects.

Combine all of these technologies and you get a stove that boils water in about three minutes and burns so efficiently that you have to use an anodized pot with it to avoid scorching the pot metal. For this very reason, the top of the Reactor burner is rounded to discourage people from using inappropriate pots with the stove. But you could argue that this is a drawback for those who want to use pots from other brands that they already have in their gear collection.

Primus took a different tack with its new EtaPower stove system (MSRP \$110). It has a heat exchanger attached to a 2.1-liter pot, rather than the burner, so a person could use this pot with any other stove and cook more efficiently. (Primus also sells separately a 1.7-liter pot with a heat exchanger.) Also, you could place any standard pot on the burner of the EtaPower, which comes with a removable windscreen.

"We wanted people to have the ultimate flexibility," Smithbaker said. "You can take off the windscreen and use larger cooking pots. And we wanted the system to be usable with existing stoves on the market to make them more efficient."

If there was any knock on the original Jetboil, it's that the integrated, compact cooking system wasn't very flexible. It was well-suited for individuals but not couples



» Jetboil's GCS

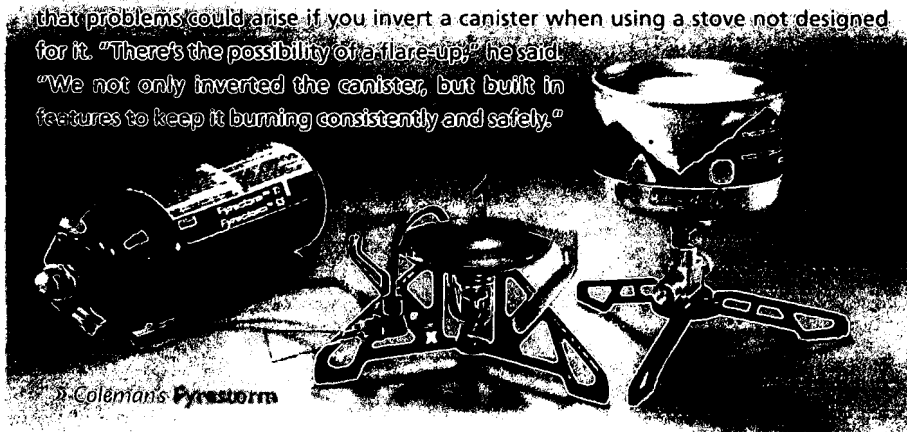
» » **INVERSION LAYER****TURNING THE STOVE MARKET UPSIDE DOWN**

It's an old trick you may have seen people use in cold weather. When a fuel canister runs low, a person turns it upside down, which produces a stronger burner flame that lasts until every ounce of fuel is used. So, what's going on here?

Inside a canister, the fuel (a blend of propane and butane) is in a liquid state. As a liquid, the fuel keeps an optimum ratio of propane and butane to burn consistently. But at the very top of the canister is an area where the fuel exists as a vapor. As an upright canister is used, the propane vapor burns off more quickly than the butane, leaving a greater amount of butane, which does not perform as well in cold weather. When you invert the canister, the propane/butane mix remains in liquid form as it leaves the canister, so the ratio doesn't change and it performs consistently throughout the life of the canister.

While inverting canisters has long been an impromptu maneuver, a couple of manufacturers have introduced stoves that standardize this technique. Snowpeak's Metal Crab LI stove (MSRP \$160) includes a plastic cradle to hold an inverted canister, and its liquid injection system optimizes fuel performance. "We're now formalizing (canister inversion) because we saw a benefit that you have constant power output until fuel is completely out," said Nate Borne, Snowpeak's sales and marketing manager.

Coleman's Fyrestorm stove also accommodates an inverted canister and withdraws the fuel as a liquid. "We wanted to find a way to give the more common canister stoves the advantages of liquid withdrawal," said James Christian of Coleman. He cautioned that problems could arise if you invert a canister when using a stove not designed for it. "There's the possibility of a flare-up," he said. "We not only inverted the canister, but built in features to keep it burning consistently and safely."



or groups. "We surveyed people and learned the typical numbers of people cooking," said Jetboil founder Perry Dowst. "Often, it was two people, so we expanded the functionality of what was essentially an efficient water boiler into something you can use for gourmet cooking." Jetboil responded by introducing a 1.5-liter pot (MSRP \$55) and an 8-inch fry pan (MSRP \$50), each with an attached heat exchanger.

The latest stoves are not only notable for their flexibility and efficiency, but they can also reduce fuel waste. Because the Reactor functions consistently, people are more likely to use their fuel completely before moving to a fresh canister. Keegan pointed out that over time people had grown accustomed to

the idea that a full canister would function better than a used one. As a result, they would take a new, full canister on every trip—even short excursions—and wind up with a garage full of half-full canisters. Though canister fuel isn't as environmentally friendly as liquid fuel, at least this takes a positive step in conserving resources.

Because canister stoves command much of the backpacking market, they've received the most attention lately. But manufacturers have improved liquid fuel stoves as well.

LIQUID MARKET

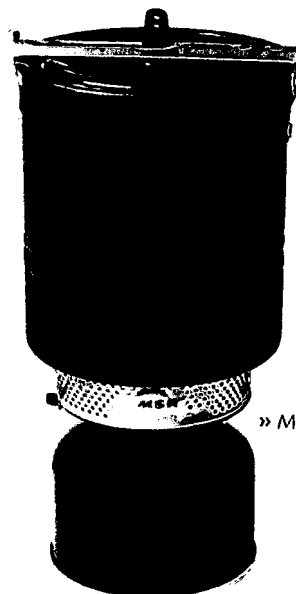
Almost two years ago, Coleman introduced the Fyrestorm (MSRP \$150) with Reflex technology, which eliminates priming. The Reflex



system controls the air and fuel ratio, which needs to change between the time a burner ignites and when the stove is operating fully. That's pretty handy when you consider that the old-school method of priming and lighting can be a messy, hair-burning affair. Heck, lighting a Whisperlite could be its own little adventure, and getting singed during your first flare-up was almost a rite of passage. But, compared to the early days of the outdoor industry, today's consumers aren't as tolerant of gear that requires experience and attention. Ease of use and operational convenience are now considered essential to a stove's success—and singed hair is no longer considered acceptable.

Last year, Brunton introduced an all-fuel stove that's less complicated than models of the past. The new Vapor AF (MSRP \$149) burns butane as well as all liquid fuels—including white gas, diesel, auto fuel, jet fuel and others—without requiring a user to switch out jets. You simply twist a cup located on the burner to adjust the airflow to burn either butane or liquid fuel. The system is not only convenient, but requires a person to carry fewer parts that could get lost on the trail.

While the Vapor AF is clever, it could one day pale in comparison to the things that Brunton is dreaming up.



» MSR's Reactor



» Primus' EtaPower

POWER TO THE PEOPLE

"We're looking at alternatives to traditional fuels," said Jason Kintzler, senior communication manager for Brunton. "What if you could take our Portable Power and use it to run a stove? That's where we see stove design headed," he told GearTrends', causing us to sit straight up in our chairs. For years, Brunton has produced a line of solar chargers for electronics, but no outdoor company has produced a portable solar charger for stoves. The concept is exciting, especially when you consider how renewable energy creates headlines these days.

While you chew on that, also be aware that MSR may re-launch its CFV stove, which it demonstrated at the 2004 Outdoor Retailer Summer Market show, but never brought to market. It featured the capillary force vaporizer (CFV), a ceramic disc the size of a button that generated a jet vapor from liquid fuel that was not pressurized. It basically did away with the need for a pressurized bottle, pump and most other traditional mechanical components. Unfortunately, the company that owned the disc technology decided it could make more money in the medical market, so MSR lost access to the discs. However, MSR has once again acquired a license for CFV and it's working on products for the military. Keegan said that MSR might eventually bring a CFV stove back to the outdoor market.

As for Jetboil, we couldn't get a handle on what the company is cooking up, despite our best attempts at arm-twisting. Dowst would only reveal that he's "interested in looking at a wide range of fuels."

We asked Dowst how he feels about the fact that his invention has generated serious competition as of late. He replied calmly that he's not really feeling the heat.

"We're pretty enthusiastic about the competition," he said. "People have woken up a bit, and this was such an underdeveloped category. I don't think the rate of innovation will slow down, and our most significant advancements are yet to come."

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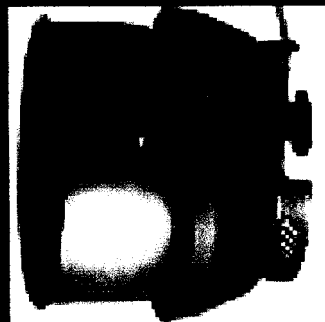
Ultimate 20,
Safari 15, and
Tour Lite 40

EXHIBIT J

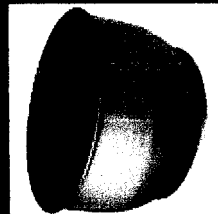
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2006+: Jetboil Inspires Innovation

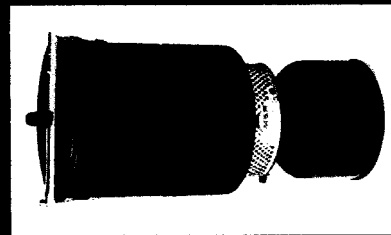
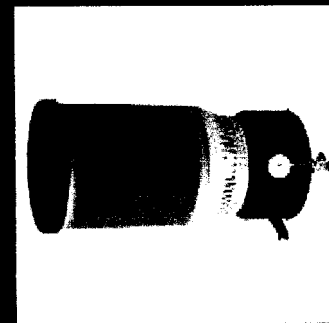
- Jetboil is the acknowledged leader of the category it created
 - “This unit has so many advantages ... it's in a class by itself.”
 - Backpacker 2004 Gear Guide
 - “According to stove manufacturers, Jetboil deserves much of the credit for moving things forward.”
 - SNEWS, GearTrends 2007
- Competitive begin to emerge



Primus EtaPower



Kovea X-Pot



MSR Reactor